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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,199	12/02/2003	John Barrus	20412-08188	5157

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FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA 94041

EXAMINER

SHERMAN, STEPHEN G

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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06/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/727,199

Applicant(s)

BARRUS ET AL.

Examiner

Stephen G. Sherman

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-13, 15-17, 19, 20, 22, 24, 25, 27, 29, 30, 33-40, 42-44 and 46-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-13, 15-17, 19, 20, 22, 24, 25, 27, 29, 30, 33-40, 42-44 and 46-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 April 2007 has been entered. Claims 1,4-13, 15-17,19,20,22,24,25,27,29,30,33-40, 42-44 and 46-48 are pending. Claims 2-3, 18, 21, 23, 26, 28, 31-32 and 45 have been cancelled.

Response to Arguments

2. Applicant's arguments with respect to claims 1,4-13, 15-17,19,20,22,24,25,27,29,30,33-40, 42-44 and 46-48 have been considered but are moot in view of the new ground(s) of rejection.

Furthermore, in reference to the argument that the applicant makes on page 20 of the applicant's response that Lechner's image is a combination of both the high resolution and the lower resolution and therefore does not leave a blank, the examiner disagrees and as stated in the rejection below and in the Lechner reference, Lechner

DOES teach of leaving a blank area. The cited portion of Lechner by the applicant (col. 2, lines 29-37) does not state anything about not leaving a blank area, whereas column 7, lines 18-40 state CLEARLY that there is a BLANK area left by the background projectors.

Also, in regards to the applicant's argument that Lechner is classified in a different area than the other references is irrelevant to the combination of the references. Lechner pertains to a multi-projector display system which is completely relevant to the claimed invention regardless of where it is classified.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1,4-13, 15-17, 19-20, 22, 25, 27, 29-30, 33-40 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665).

Regarding claim 1, Nakagawa discloses a projector display system for displaying an image including at least one window (Figures 4 and 9A-B), comprising:
a projector for displaying the image (Figure 4 shows projector 3.);
an input device, for receiving user input (Figure 4 shows user input device 1.);
and

a control mechanism, coupled to the projector, for, responsive to the input device receiving a user command to drag the movable window from one location to another, changing the display location of the first portion of the image (Figure 4 shows the image display control unit 43 and Figures 9A-B show the movement of a window with respect to a user command to drag the window, as explained in Figure 10 and paragraphs [0070]-[0076]).

Nakagawa fails to teach of a multi-projector display system comprising a window projector, for displaying, at a display location, a portion of the image corresponding to a movable window and a workspace projector, for displaying the remainder of the image.

Spletzer et al. disclose of a multi-projector display system comprising:

a window projector, for displaying, at a display location, a portion of the image corresponding to a movable object (Figure 1 shows item 12 which displays a subset of

the total image as explained in column 2, lines 11-19. Column 2, lines 22-29 explain that the subset of data, i.e. the data projected by the second projector, can change with time, such that the subset would move with the movement of the pointing device or an on screen object. The examiner understands that the onscreen object could be a window.); and

a workspace projector, for displaying a second portion of the image (Figure 1 shows item 11 which displays an entire image on a display surface as explained in column 2, lines 11-19.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the idea of having separate projectors as taught by Spletzer et al. with the display window projector system taught by Nakagawa in order to allow for the part of the display screen that the user is focusing on to be displayed in a higher resolution than the rest of the screen without incurring the cost associated with displaying the entire image at the higher resolution.

Nakagawa and Spletzer et al. fail to disclose that the workspace projector, for displaying the second portion of the image that comprises a blank area corresponding to the display location of the movable window, wherein no light is projected in the black area by the workspace projector.

Lechner et al. disclose of a multi-projector display system in with a second projector for displaying a second portion of an image comprising a blank area corresponding to a display location of a first portion of the image displayed by a first

projector, wherein no light is projected in the blank area by the second projector (Column 5, lines 1-17 and column 7, lines 18-40).

Therefore, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to modify the multi-projector display system taught by the combination of Nakagawa and Spletzer et al. such that the window projector is a detailed inset projector and the background projector leaves a void where the window projector displays its image in order to allow for better image quality of the high resolution image.

Regarding claim 4, please refer to the rejection of claim 1, and furthermore given the combination of references, the examiner interprets that since the window projector taught by Spletzer et al. changes the subset based on user input (see column 2, lines 26-29 and the rejection above.) that when used in combination with Nakagawa, the second projector will change focus from a first window on the screen to a second window on the screen, leaving the first window to be displayed by the workspace projector, when a user uses the input device to select the window.

Regarding claim 5, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 1.

Spletzer et al. also disclose wherein:

the window projector displays the first portion of the image at a first level of resolution and the workspace projector displays the remainder of the image at a second

level of resolution (Column 16, lines 11-18 explains that each projector in the example could be set to a resolution of 1024X728, meaning that the first and second level of resolutions are equal, see also column 1, lines 55-62).

Regarding claim 6, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 5.

Spletzer et al. also disclose wherein the first level of resolution is greater than the second level of resolution (Column 1, lines 55-62.).

Regarding claim 7, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 1.

Spletzer et al. also disclose wherein:

the window projector displays the first portion of the image in a first visual format and the workspace projector displays the second portion of the image in a second visual format, wherein the first visual format is distinct from the second visual format (Column 16, lines 11-18 explains that each projector in the example could be set to a resolution of 1024X728, meaning that the first and second level of resolutions are equal, see also column 1, lines 55-62, where the examiner interprets that the visual format is the resolution of the video display.).

Regarding claim 8, Nakagawa, Spletzer et al. and Lechner disclose the display system of claim 7.

Lechner et al. also disclose a display system where the first visual format is color (see col. 6, lines 1-2) and the second visual format is monochrome (see col. 5, lines 13-17).

Regarding claim 9, please refer to the rejection of claim 1, and furthermore Spletzer et al. also discloses wherein the portion comprises a motion picture (Column 2, lines 25-29).

Regarding claim 10, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 1.

Spletzer et al. also disclose wherein the window projector and the workspace projector are coupled to a common image source, and wherein the first portion of the image displayed by the window projector and the second portion of the image displayed by the workspace projector are derived from a single image (Column 1, lines 56-62 explain that the portions of the image displayed by the projectors are from a single image.).

Regarding claim 11, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 1.

Spletzer et al. also disclose wherein the window projector is coupled to a first image source (Figure 1 shows image source 18.), and the workspace projector is coupled to a second image source (Figure 1 shows image source 19.).

Regarding claim 12, please refer to the rejection of claim 4, where the examiner explains that based on the combination of Nakagawa, Spletzer et al. and Lechner et al. when there are two windows, the window that is selected by the user, i.e. in focus, is the window in which the window projector will display the portion of the image.

Regarding claim 13, please refer to the rejections of claims 4 and 12.

Regarding claim 15, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 1.

Lechner et al. also disclose wherein the projector moves the blank area of the image so as to correspond to the changed display location of the first portion of the image (Column 8, lines 6-22 explain that the images are generated at 60 Hz, which means that as the images move the screen is updated and the blank area as well as the inset position will be changed when the inset images move.).

Regarding claim 16, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 1.

Spletzer et al. also disclose wherein a control mechanism changes the display location of the first portion of the image by repositioning the window projector (Column 3, lines 13-17 explain that the video source, i.e. projector, can be moved to display on the appropriate portion of the display medium the image.).

Regarding claim 17, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 1.

Spletzer et al. also disclose a system comprising a mirror for directing the output of the window projector to the display location, and wherein the control mechanism changes the display location of the first portion of the image by repositioning the mirror (Column 3, lines 10-13 explain that a movable mirror can be used to steer the image where it needs to be on the display medium.).

Regarding claim 19, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 1.

Spletzer et al. also disclose wherein the control mechanism comprises:

a pan/tilt control mechanism (Column 16, lines 19-26 explain about the pan/tilt unit.); and

a zoom control mechanism (Column 16, lines 27-34 explain about the zoom lens assembly.).

Regarding claim 20, please refer to the rejection of claim 1, and furthermore Lechner et al. also disclose the multi-projector display system having a plurality of window projectors (Column 7, lines 46-48.) for each displaying, at a display location, a portion of the image (Figure 1, images 24, see col. 5, lines 38-39.).

Regarding claim 22, please refer to the rejection of claim 1, and furthermore Lechner et al. also disclose the multi-projector display system having a plurality of workspace projectors (Column 7, line 18-40).

Regarding claim 25, please refer to the rejection of claim 1, and furthermore Lechner et al. also disclose the multi-projector display system having a plurality of window projectors (Column 7, lines 46-48.) for each displaying, at a display location, a portion of the image (Figure 1, images 24, see col. 5, lines 38-39.) and having a plurality of workspace projectors (Column 7, line 18-40).

Regarding claim 27, please refer to the rejection of claim 1, and furthermore Spletzer et al. also disclose wherein a display device can be used as the first display medium (Column 2, lines 40-42).

Regarding claim 29, this claim is rejected under the same rationale as claims 1 and 11.

Regarding claim 30, this claim is rejected under the same rationale as claim 1.

Regarding claim 33, this claim is rejected under the same rationale as claim 4.

Regarding claim 34, this claim is rejected under the same rationale as claim 5.

Regarding claim 35, this claim is rejected under the same rationale as claim 6.

Regarding claim 36, this claim is rejected under the same rationale as claim 7.

Regarding claim 37, this claim is rejected under the same rationale as claim 8.

Regarding claim 38, this claim is rejected under the same rationale as claim 9.

Regarding claim 39, this claim is rejected under the same rationale as claim 12.

Regarding claim 40, this claim is rejected under the same rationale as claim 13.

Regarding claim 42, this claim is rejected under the same rationale as claim 15.

Regarding claim 43, this claim is rejected under the same rationale as claim 16.

Regarding claim 44, this claim is rejected under the same rationale as claim 17.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665) and Fisher et al. (US 5,326,266).

Regarding claim 24, Nakagawa, Spletzer et al. and Lechner et al. disclose the display system of claim 22.

Nakagawa, Spletzer et al. and Lechner et al. fail to teach a display system, wherein the window projector displays the portion of the image corresponding to a window without any visible seams.

Fisher et al. disclose a display system, wherein the window projector (Fig. 1, projector 14) displays the portion of the image corresponding to a window (Fig. 1, inset 10) without any visible seams (see col. 1, lines 65 - col. 2, line 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Fisher et al. in the system taught by the combination of Nakagawa, Spletzer et al. and Lechner et al. in order to have an oscillating border to the inset area so that the inset image would appear blended with the background image.

7. Claims 46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665) and Dugdale (US 5,707,128).

Regarding claim 46, please refer to the rejection of claim 1, and furthermore Nakagawa, Spletzer et al. and Lechner et al. fail to teach wherein the control mechanism changes the size of the window portion of the image in response to a user command for resizing the window.

Dugdale does teach a display system wherein a control mechanism changes the size of the window portion of the image in response to a user command for resizing the window (see col. 3, lines 4-9, where the lens on the target projector can perform a zoom function to change the size of the target image).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the zooming lens of Dugdale in the system taught by the combination of Nakagawa, Spletzer et al. and Lechner et al. in order to adjust the size of the target image if it does not appear to be the proper size.

Regarding claim 48, this claim is rejected under the same rationale as claim 46.

8. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665) and Dugdale (US 5,707,128).

Regarding claim 47, please refer to the rejection of claim 20, and furthermore Nakagawa, Spletzer et al. and Lechner et al. fail to teach wherein the control

mechanism changes the size of the window portion of the image in response to a user command for resizing the window.

Dugdale does teach a display system wherein a control mechanism changes the size of the window portion of the image in response to a user command for resizing the window (see col. 3, lines 4-9, where the lens on the target projector can perform a zoom function to change the size of the target image).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the zooming lens of Dugdale in the system taught by the combination of Nakagawa, Spletzer et al. and Lechner in order to adjust the size of the target image if it does not appear to be the proper size.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

20 June 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
Amr Awad